Writing, Engineering, Scientific Processes, and "Rethinking Expertise."

The writing process shares many similarities with processes in fields such as engineering, the sciences, and nursing, primarily through its reliance on structured methodologies, iterative improvements, and problem-solving approaches. With this in mind, we may consider "Rethinking Expertise" by Harry Collins and Robert Evans, which challenges traditional notions of expertise, advocating for a more nuanced and inclusive approach that can significantly benefit faculty in higher ed. Collins and Evans offer compelling frameworks for utilizing expertise in a way that encourages greater collaboration between disciplines. This handout, then, illustrates commonalities between writing processes and processes in other fields. It also offers insights from Collins and Evans as The Writing and Communication Center advocates for more collaboration across the disciplines to develop Writing in the Disciplines approaches in broader contexts across campus.

How is the Writing Process Related to Other Scientific Processes?

- In E**ngineering**, the process often begins with identifying a problem or a need, followed by research, planning, and the design of a solution. This mirrors the initial stages of writing, where a writer identifies a topic or a thesis, conducts research, and outlines their ideas. Both processes involve a systematic approach to breaking down complex tasks into manageable steps.
- In the **Sciences**, the scientific method is fundamental. This involves making observations, forming a hypothesis, conducting experiments, analyzing data, and drawing conclusions. Similarly, the writing process includes brainstorming ideas, drafting, revising, editing, and finalizing a piece. Each step requires critical thinking, analysis, and synthesis of information, ensuring that the final output is coherent and well-supported by evidence.
- **Nursing** involves assessment, diagnosis, planning, implementation, and evaluation. This process is analogous to writing, where a writer assesses the purpose and audience, plans the structure and content, writes the initial draft, implements revisions based on feedback, and evaluates the final product for clarity and effectiveness. Both fields require attention to detail, adherence to standards, and a focus on outcomes.
- Additionally, iterative improvement is central to all these fields. **Engineers** test and refine prototypes, **Scientists** revise their hypotheses and experiments based on results, and **Nurses** continually reassess and adjust care plans. Writers, similarly, revise their drafts, seeking feedback and making changes to enhance clarity, coherence, and impact.

Ultimately, whether in writing, engineering, the sciences, or nursing, a structured process, iterative refinement, and problem-solving are key to achieving a successful outcome. Each field values precision, thoroughness, and adaptability, ensuring that the final product meets its intended purpose effectively.

“Rethinking Expertise.”

Collins and Evans introduce the concept of "contributory expertise," which is the expertise needed to contribute to a field's practice and advancement. This distinction underscores the value of different types of expertise within academic institutions. Collins and Evans argue that “contributory expertise requires crossing [sometimes artificial] social boundaries . . . to which there is limited access” for the production of cross-appropriation knowledge to occur (73). Recognizing and valuing multiple forms of expertise from otherwise ‘alien’ social environments can lead to more effective collaboration and innovation as we consider Writing in the Disciplines as a holistic learning approach.

Further, Collins and Evans emphasize the importance of "interactional expertise," which refers to the ability to understand and use the language of a particular domain without necessarily being able to practice within it. This concept may also be useful as we look for ways of fostering more interdisciplinary collaboration. As the authors argue, “interactional expertise gives us a better idea of what some human coaches might be doing and how they succeed despite the gaps between language and practice” (30). This may suggest ways of transforming how faculty members in higher ed approach interdisciplinary work, encouraging them to engage with and appreciate the expertise of colleagues in different fields.

With a couple of highlights offered in "Rethinking Expertise", we may see how encouraging faculty in higher education’s contexts embrace of a more collaborative approach may more adequately equip our faculty to address complex challenges through those interdisciplinary and community-engaged efforts we pursue.

Works Cited

Collins, Harry, and Robert Evans. *Rethinking Expertise*. University of Chicago Press, 2007.